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Cities and Pandemic Response: Review of Best Practices

Spencer Crabb

Boise State University

Alexa Roitman

Boise State University

Will Long

Boise State University

Nick Lopez

Boise State University

Cities and Pandemic Response: Review of Best Practices

Abstract

City-wide COVID-19 strategies have varied significantly throughout the country. Many cities have struggled to establish consistently effective COVID-19 policy, as well as maintain citizen cooperation throughout the pandemic. Our research objective is to analyze the city of Boise's COVID-19 strategies and to understand how Boise's policies such as mask mandates and social distancing have influenced the local economies. We compared several different cities' COVID responses and found that population density makes cities inherently different from each other and helps to show that there isn't a one-size-fits-all strategy.

Cities and Pandemic Response: Review of Best Practices

Research Team: Spencer Crabb, Alexa Roitman, Will Long, Nick Lopez

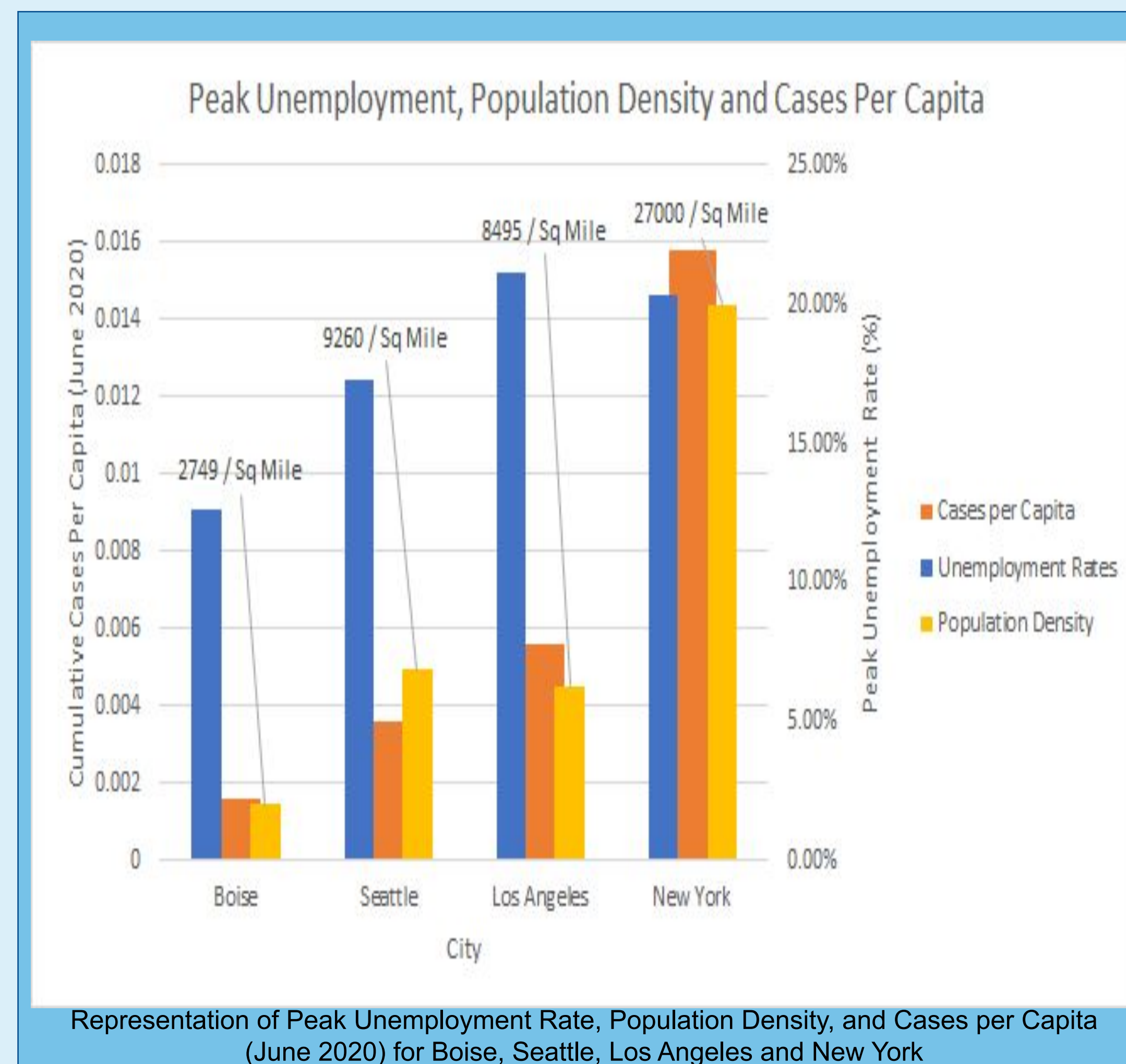
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Abstract

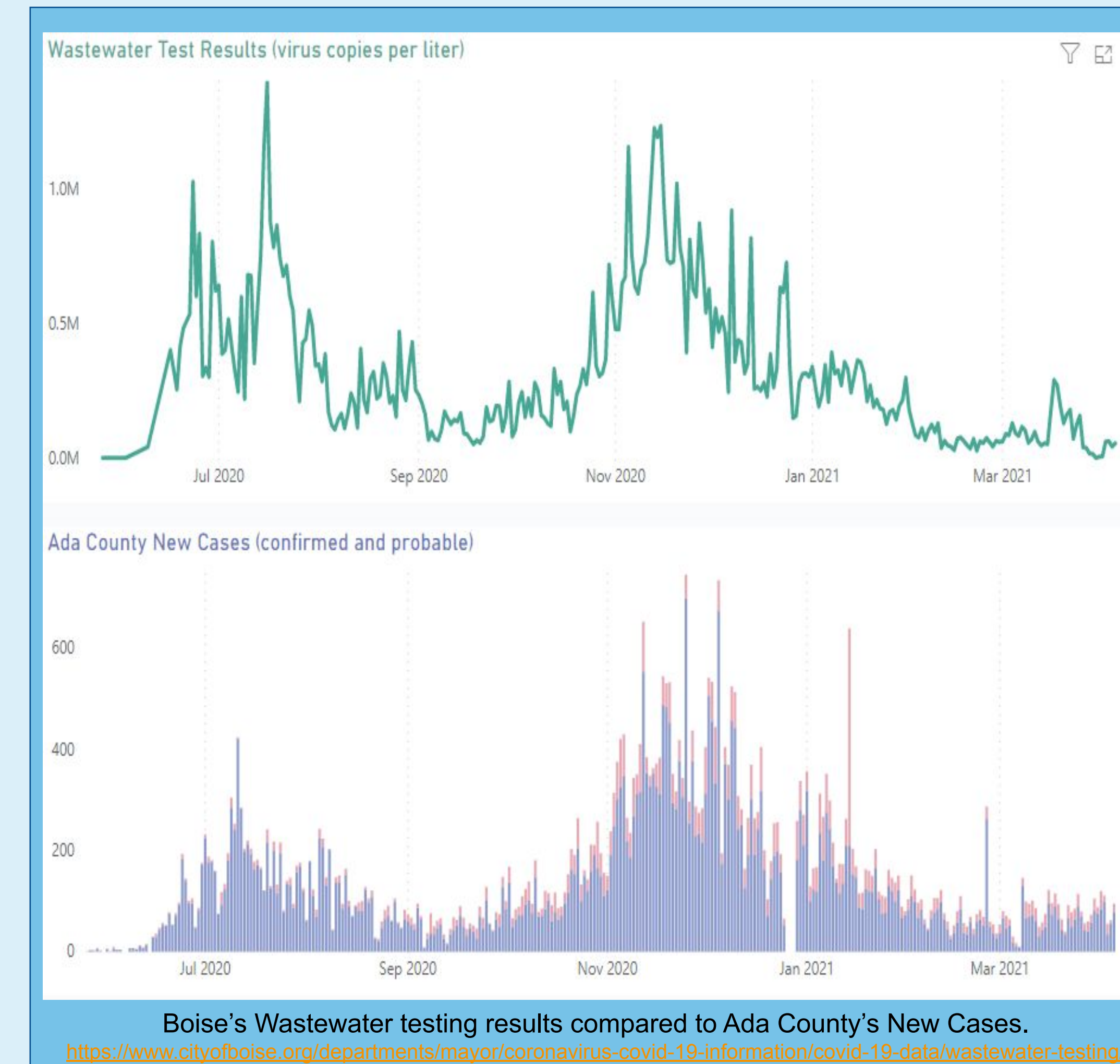
City-wide COVID-19 strategies have varied significantly throughout the country. Many cities have struggled to establish consistently effective COVID-19 policy, as well as maintain citizen cooperation throughout the pandemic. Our research objective is to analyze the city of Boise's COVID-19 strategies and to understand how Boise's policies such as mask mandates and social distancing have influenced the local economies. We compared several different cities' COVID responses and found that population density makes cities inherently different from each other and helps to show that there isn't a one-size-fits-all strategy.

Methodology

We collected COVID-19 strategy information on the following cities: Boise, Seattle, New York and Los Angeles. Our objective was to provide an overview of how cities across the country varied in their approaches to addressing COVID-19. Our research explored currently available data. Considering that the pandemic is ongoing, we must note that it will likely take time before the full effects of COVID-19 are fully realized and quantified. We determined that comparing population density, unemployment, and confirmed cases provided a strong method of comparing city response to the pandemic. Furthermore, by looking at Seattle, Los Angeles, New York and Boise city websites as well as local and national news sources, we were able to find and compare specific challenges and effective strategies for each of our cities.



Representation of Peak Unemployment Rate, Population Density, and Cases per Capita (June 2020) for Boise, Seattle, Los Angeles and New York



Boise, Idaho: A Closer Look

Though confirmed cases have been markedly lower than other cities throughout the country, likely due to a lower population density, had the City of Boise fully committed to social distancing and mask mandates early on instead of hastily moving to stage 4 reopening by June 12th, 2020, following Governor Brad Little's Idaho Rebound Plan, perhaps the city could have prevented the spread more effectively and opened businesses and public facilities sooner.

Although, Boise's reopening plan has not been seamless, the city has been involved in a unique area of COVID-19 research. On May 19th, 2020, The City of Boise began sampling the city's water renewal system to test for COVID-19. Though wastewater testing has been used in the past for tracking diseases such as polio, testing SARS-CoV-2 and COVID-19 is a new area of research for the country. This strategy has proved to be a very effective method for identifying trends and changes in COVID-19 cases. The graph above displays how wastewater testing correlates increased virus copies per liter with increased confirmed cases shortly after. This research could help provide crucial warning signs of future case spikes in a city – helping cities manage and respond to future pandemics more effectively.

Conclusion

Our team recognizes the inherent challenges in comparing cities with vastly different populations, densities, governance, and pandemic response criteria. Considering these inherent challenges, we chose to analyze population density, unemployment, and confirmed cases as an objective method of comparing our four cities. We also identified the unique challenges and effective strategies experienced by each of our cities.

We summarize our findings as follows:

- The past year has shown how early commitment by city governments and citizens to practicing social distancing and mask mandates can help reduce the spread of COVID-19 and future viral pandemics.
- There is a critical need to utilize pandemic data to determine how speed of response and policy actions influence the duration of the pandemic to be better prepared for future outbreaks.
- Areas with high population density will need to have more strict about preventive measures and build up capacity for quicker response when it comes to enforcing mask mandates and social distancing orders.
- Understanding how lockdowns and restriction of movement may adversely impact individual physical and mental health is important.

Sources

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Comparison of COVID-19 Strategy and Challenges of 4 US Cities

	Boise	Seattle	New York	Los Angeles
Population	226,115	776,555	8,400,000	3,967,000
Population Density	2,749 / sq mile	9,260 / sq mile	27,000 / sq mile	7,900 / sq mile
Key Challenge(s)	<ol style="list-style-type: none">1. Efficacy of following state and federal guidelines2. Rushed reopening, policy trial and error3. Citizen cooperation with guidelines	<ol style="list-style-type: none">1. Early epicenter of COVID-192. Large protests in midst of pandemic3. Large population density	<ol style="list-style-type: none">1. Large population density2. Hospital bed and supply shortages3. The temporary closing of social services	<ol style="list-style-type: none">1. Large population density2. Hospital bed and supply shortages3. Reopening of Schools
Strategies	<ol style="list-style-type: none">1. Wastewater testing to trace COVID-19 levels2. Crush the Curve non-profit testing centers	<ol style="list-style-type: none">1. Stay at home orders2. Robust contact tracing3. Strict reopening phases	<ol style="list-style-type: none">1. Testing in high volumes2. Strict stay at home orders3. Slowing public transportation frequency	<ol style="list-style-type: none">1. Strict stay at home orders2. Fines for large gatherings3. Purchased 10 hotels for homeless population

